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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant : Jiro YAMADA

Group Art Unit: 2655

Appln. No. : 09/778,895

Examiner: J. L. ORTIZ CRIADO

Filed : February 8, 2001

For : MULTIMEDIA COPY CONTROL SYSTEM AND METHOD USING
DIGITAL DATA RECORDING MEDIUM AND OPTICAL DISC
REPRODUCING APPARATUS

APPEAL BRIEF UNDER 37 C.F.R. §1.192

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

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Sir :

This appeal is from the Examiner's final rejection of claims 1-14 as set forth in the Final Official Action of August 11, 2003, and as maintained in the Advisory Action of December 2, 2003.

A Notice of Appeal in response to the Final Office Action of August 11, 2003 was filed on January 12, 2004, and the two-month period for response was set to expire on March 12, 2004. Further, the instant Appeal Brief is accompanied by the requisite fee under 37 C.F.R. §1.17(c) in the amount of \$330.00 for the filing of the Appeal Brief.

However, if for any reason the necessary fee is not associated with this file or the attached fee is inadequate, the Commissioner is authorized to charge the fee for the Appeal

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Brief and any necessary extension of time fees to Deposit Account No. 19-0089.

This Appeal Brief is being submitted in triplicate, pursuant to 37 C.F.R. §1.192(a).

(1) **REAL PARTY IN INTEREST**

The real party in interest is Matsushita Electric Industrial Co., Ltd., as established by an assignment recorded in the U.S. Patent and Trademark Office on April 12, 2001, at Reel 011721 and Frame 0053.

(2) **RELATED APPEALS AND INTERFERENCES**

No related appeals and/or interferences are pending.

(3) **STATUS OF THE CLAIMS**

Claims 1-14 stand finally rejected. A copy of claims 1-14 is attached as an Appendix to this brief.

(4) **STATUS OF THE AMENDMENTS**

No amendments to the claims were filed under 37 C.F.R. §1.116 after the Examiner's final rejection of the claims of August 11, 2003. However, a Response Under 37 C.F.R. §1.116 was filed on November 10, 2003.

(5) **SUMMARY OF THE INVENTION**

The present invention relates to a multimedia copy control system and method for preventing unauthorized duplication of contents from a recording medium, e.g., from an optical disc such as a DVD. In particular, the present invention relates to controlling the

unauthorized reproduction of data from an optical disc, and the unauthorized recording of data to unauthorized copy discs. (Specification, page 1, line 7 to page 2, line 4).

According to an aspect of the claimed and disclosed invention, a disc 1 stores digital contents data that includes both a digital first copy control information (DGCCI) and an analog second copy control information (watermark or WMCCI). Specification, page 25, line 23 to page 26, line 9. An authorized optical disc player 10 includes an encryption decoder 3 for decoding an encryption from a stream reproduced from the optical disc 1. Specification, page 26, lines 9-11. The authorized optical disc player 10 also includes a copy control management data detector 5 for detecting the digital (first) copy control information (DGCCI) from the stream reproduced from the optical disc 1. Specification, page 26, lines 14-16. The authorized optical disc player 10 also includes an AV decoder 6 for converting the system stream to a digital audio or digital video signal. Specification, page 26, lines 16-18. The authorized optical disc player 10 also includes a watermark decoder 7 for reading out WMCCI data from the digital audio data or digital video signal from the AV decoder. Specification, page 26, lines 18-20.

In other words, as can be seen from the description of Fig. 1 at pages 25 and 26, the stream from the optical disc 1 is decrypted to produce reproduction data. A digital CCI, if present, is detected from the decrypted reproduction data. The decrypted reproduction data is decoded to extract digital audiovisual contents data. Analog (watermark) data is detected

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from the extracted digital audio data.

Similar to the above-described authorized optical disc player 10, an authorized optical disc recorder 18 is provided according to an aspect of the disclosed invention. The optical disc recorder 18 includes a watermark decoder/encoder 15, an AV encoder 14, a copy control management data (CCM) detector/rewriter 16, and an encryption generator 17 for generating encryption. Specification, page 27, lines 1-19. The authorized optical disc recorder 18 is connected to the authorized optical disc player 10 to create a copy disc 2. Specification, page 27, lines 20-24. In the case of a digital connection, both watermark (WMCCI) data and digital (DGCCI) data are included in the digital contents data, while only WMCCI data is included in the analog contents data. Specification, page 27, line 24 to page 28, line 3.

The watermark and digital copy control information can indicate whether no copies of the contents are permitted, whether one copy of the contents is permitted, or whether copying is unrestricted. Specification, page 28, lines 10-12. When one copy of the contents is permitted, a CCI detector/rewriter 35 of an optical disc recorder 37 can rewrite the “one copy” CCI to indicate that no (additional) copy of the contents is permitted, i.e., after the current copy.

The copy control information states of the digital CCI can be used in a manner inconsistent with the convention meaning in order to deter unauthorized copying. For example, in an embodiment described at page 30, line 20 to page 32 line 12, an unauthorized

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alteration of a digital CCI by a tampered CCI detector/rewriter 74 changes a “one copy permitted” CCI to an “unrestricted copies” CCI, but an authorized optical disc player 84 will not permit reproduction of the contents accompanied by an “unrestricted copies” digital CCI. Specification, page 30, line 20 to page 32, line 12.

In another embodiment, when an unauthorized copy is made using an analog input signal with only WMCCI data, there is no DGCCI data in the unauthorized copy disc. When the watermark CCI data represents copy prohibition (and no digital CCI data is detected), one or both of the digital signal or the analog signal output can be muted by an authorized optical disc player 144, such that even reproduction of the contents data of an unauthorized copy disc can be prohibited. Specification, page 34, line 14 to page 36, line 22.

An embodiment of the present invention may be carried out in an exemplary method, as described at pages 46-48. According to the method, when the digital CCI is in a state of copy with restriction or copy prohibition, but not copy without restriction, reproduction from the optical disc is permitted. Furthermore, in the case where digital CCI is not detected at step S2, a watermark decoder detects the watermark CCI. Normal reproduction is only permitted in the case of the watermark CCI being in a state of copy without restriction, but not copy with restriction or copy prohibition. Specification, page 46, line 14 to page 47, line 24.

Accordingly, the present invention distinguishes between copying and reproducing

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the contents of a content medium. Furthermore, the present invention contingently uses one or the other of two copy control informations, based on whether a first copy control information is detected (in which case it is used). Moreover, given the flexibility provided when contingently basing a reproduction decision on the detection of the first copy control information, the reproduction may be controlled in a manner that is inconsistent with the conventional meaning of the copy control states. In other words, reproduction of digital audio data is inhibited when the first copy control information indicates unrestricted copying (i.e., copy free), whereas reproduction of digital audio data is permitted when the first copy control information indicates that copying is restricted or inhibited.

Furthermore, as described, aspects of the present invention are embodied in a multimedia copy control system, a multimedia copy control method, an optical disk reproduction device, a digital data reproducing and recording system, and a digital data recording medium. Additionally, according to aspects of the disclosed and claimed invention, the manner in which, e.g., encryption decoding, copy control information detection, and data extraction are performed provides benefits not previously available, such as the ability to contingently base the reproduction decision on whether the first copy control information is detected. As a result of the disclosed and claimed invention, both copying and reproducing unauthorized copies of digital contents are inhibited in a manner not previously available.

(6) ISSUES

(A) Whether Claims 1, 3-5, 7-11 and 13 are Improperly Rejected Under 35 U.S.C. §102(e) as Anticipated Over MATSUMOTO et al. (U.S. Patent No. 6,320,829);

Whether MATSUMOTO contains adequate teachings to anticipate the combinations of features recited in each and all of independent claims 1, 5, 7, 11 and 13 and their dependent claims 3, 4 and 8-10.

(B) Whether Claims 2, 6, 9, 12 and 14 are Improperly Rejected Under 35 U.S.C. §103(a) as Unpatentable Over MATSUMOTO et al. (U.S. Patent No. 6,320,829).

Whether MATSUMOTO contains any teaching rendering obvious, in the claimed combination, “in the case where the copy control state of the first copy control information is the copy free state, the reproduction is controlled to be inhibited, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be permissive, and in the case where the copy control state of the second copy control information is the copy free state, the reproduction is controlled to be permissive, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be inhibited”.

(7) GROUPING OF CLAIMS

For the purpose of this appeal, Appellant submits that none of the claims stand or fall together. Therefore, each of claims 1-14 are separately patentable for the reasons set forth

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hereinbelow.

(8) ARGUMENT

(A) The Rejection of claims 1, 3-5, 7-11 and 13 Under 35 U.S.C. §102(e) as Anticipated Over MATSUMOTO et al. is Improper, the Decision to Reject Claims 1, 3-5, 7-11 and 13 on this Ground Should be Reversed.

In the Final Official Action of August 11, 2003, the Examiner rejected claims 1, 3-5, 7-11 and 13 under 35 U.S.C. §102(e) over MATSUMOTO et al. Initially, Appellant notes that, while claim 9 was rejected under 35 U.S.C. §102(e), the subject matter of claim 9 is similar to the subject matter recited in claims 2, 6, 12 and 14. Accordingly, for the purposes of this appeal, Appellant has addressed the rejection of claim 9 as if it were made under the same basis as the rejections of claims 2, 6, 12 and 14, i.e., under 35 U.S.C. §103(a) over MATSUMOTO et al.

Appellant respectfully submits that the rejection of each of claims 1, 3-5, 7-11 and 13 is improper and should be reversed. In this regard, Appellant hereinbelow addresses the rejection of claims under 35 U.S.C. §102(e) in the numerical order of the claims.

(1) Claims 1, 5 and 7

Claim 1 recites a feature of “[a] multimedia copy control system for controlling a copy of a digital data recording medium... comprising... a first copy control detector... and... a second copy control detector... wherein... when said first copy control detector detects the

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first copy control information, the reproduction of the digital audio data is controlled based on the first copy control information, and when said first copy control detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information”. In other words, the invention recited in claim 1 includes a system that controls reproduction using either first or second copy control information, depending on whether the first copy control information is detected.

With respect to the above-noted features of claim 1, in the outstanding Final Official Action, the Examiner asserted that “Matsumoto et al. discloses a multimedia copy control system...

when said first copy control detector detects the first copy control information, the reproduction of the digital audio data is controlled based on the first copy control information (See col. 2, lines 1-21; col. 15, lines 16-28, col. 11, Table),

and when said first copy control detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information (See col. 2, lines 1-21; col. 15, lines 16-26; col. 15, lines 36-48; col. 11, Table, “Analog input”).”

Initially, Appellant respectfully submits that the above-noted assertions of the Final Official Action present an inconsistent combination of the teachings set forth in the Background and the Detailed Description of MATSUMOTO. In this regard, the Background

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in MATSUMOTO is described from column 1, line 8 to column 2, line 21. In particular, the Background of MATSUMOTO describes two different (i.e., distinct or mutually exclusive) methods of copy control, one using a digital two-bit “copy control information” (i.e., “CCI”), and one using an analog watermark (i.e., “watermark information”). For example, lines 35-55 in column 1 of MATSUMOTO describe digital main data that contains a “CCI”, while lines 56-67 describe “another method” where “it has been proposed to use electronic watermark information”. Furthermore, in column 2, lines 1-2 and 9, MATSUMOTO further describes “the conventional... method using CCI as described above” and “the method using watermarks, on the other hand” (see column 2, lines 1-2 and line 9).

In comparison, the Summary of the Invention is described from column 2, line 25 to column 7, line 20, and the Detailed Description of the Preferred Embodiment is described from column 7, line 38 to column 17, line 50. The Summary of the Invention of MATSUMOTO explicitly describes, e.g., at column 2, lines 25-27, that “[i]t is therefore an object of the invention to prevent unauthorized digital copying... while allowing the use of different forms or levels of copy restriction”. Furthermore, the Detailed Description of MATSUMOTO describes throughout the consideration of a combination of different forms of copy restriction data including the presence or absence of a particular form of copy restriction data, e.g., Watermark, CCI and Input State, in the Table at Column 11.

Appellant respectfully submits that it is inconsistent (i.e., unobvious) to combine the

no combination is made
no combinations

teachings of a system that uses only one form of copy restriction (i.e., the two distinct systems described in the Background) with a system that uses a combination of a plurality of forms of copy restriction together (i.e., the system in the Detailed Description) and to obtain a system that contingently uses one or the other of the first copy control information or the second copy control information (i.e., the system recited in claim 1).

Once the Detailed Description of MATSUMOTO explicitly admits to controlling reproduction based on a combination of copy control information types, it is impermissible to modify the system to control reproduction based on a single type of copy control information.

Yet, the above-noted Final Official Action and an Advisory Action dated December 2, 2003 assert that precisely such an inconsistent combination of the Background and Detailed Description is both possible and, moreover, is suggested according to the teachings of MATSUMOTO. Appellant respectfully submits that there is no possibility that any level of "knowledge... within the level of ordinary skill" (see the Advisory Action dated December 2, 2003) at any time could overcome the practical inability to combine the various teachings asserted by the Examiner to disclose the features claimed in the present application. Accordingly, Appellant respectfully submits that the outstanding rejections are based upon an inappropriate and unobvious combination of teachings in MATSUMOTO. Furthermore, it is readily evident that neither the Background or the Detailed Description of

MATSUMOTO discloses or suggests the present invention, either alone or in combination. Therefore, the remainder of Appellant's remarks will focus on explaining the shortcomings of the system disclosed in MATSUMOTO with respect to the invention recited in the claims of the present application. The Table at column 11 of MATSUMOTO is described from column 10, line 26 to column 15, line 48. In the Table at column 11, the presence and content of a media mark (first column), together with the CCI (third column) and the Watermark (second column) are used to indicate whether reproduction and recording is possible. In this regard, discs in which media marks are present may be judged as original discs, and discs in which no media marks are present may be judged as copy discs or conventional discs. Those discs with media marks, and those discs without media marks from which digital input is provided, are described with respect to the 1st to 18th rows in the table.

In the entries where copying is to be freely permitted (i.e., the 6th, 15th and 18th rows), the watermark is set to "00" if it is present (no watermark is present in the 18th row). Furthermore, in the entries where copying is to be restricted or prohibited (i.e., the 1st, 2nd, 10th, 16th and 17th rows), the watermark is set to "11" if it is present (no watermark is present in the 16th and 17th rows). Additionally, in the entries where copying is to be freely permitted (i.e., the 6th, 15th and 18th rows), the CCI is set to "00". Furthermore, in the entries where copying is to be restricted (i.e., the 2nd, 10th and 17th rows), the CCI is set to "10", and in the

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entries where copying is to be prohibited (i.e., the 1st and 16th rows), the CCI is set to "11".

Furthermore, where a watermark is not present (i.e., the 7th-9th and 16th-18th entries), the presence or absence of the media mark determines whether the disc is judged as an "unauthorized alteration". In particular, when a watermark is not present and a media mark is present (i.e., the 7th-9th entries), the disc is judged as an unauthorized alteration. However, when a watermark is not present and a media mark is not present (i.e., the 16th-18th entries), the disc is judged as an authorized conventional (old or personally produced) disc. In an authorized disc, free copying is permitted if the CCI is "00" (i.e., the 18th entry), copying is restricted if the CCI is "10" (i.e., the 17th entry), and copying is prohibited (though reproduction is allowed) if the CCI is 11 (i.e., the 16th entry).

Accordingly, where both the watermark and CCI are "00", free copying is permitted and both recording and reproduction of the data are allowed (regardless of the presence of a media mark). However, where the watermark is "00" and the CCI is "10" or "11", the disc is considered as unauthorized.

Additionally, where the watermark is "11" and the CCI is "00" the disc is considered as unauthorized. Furthermore, where the watermark is "11" and the CCI is "11", the disc is judged as authorized, though copying is prohibited or restricted (reproduction is allowed for authorized discs). However, when the watermark is "11" and the CCI is 10, the disc is judged additionally based on the value of the media mark. In particular, if the media mark

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is present when the watermark is "11" and the CCI is "10", then the disc is judged as authorized. However, if the media mark is not present, and the watermark is "11" and the CCI is "10", the disc is judged as unauthorized.

Accordingly, Table 11 of MATSUMOTO explicitly discloses that a combination of three types of data, including the presence or absence of a particular type of data, is used to control copying. Furthermore, in those cases, where MATSUMOTO discloses that a Watermark is "absent", i.e., for the 7th-9th and 16th-18th entries, the system of MATSUMOTO does not control reproduction based on the CCI, as can be seen in the differences in results for the 7th-9th and 16th-18th entries. In any case, a Watermark additionally is not a "first copy control information of a digital format" as is recited in claim 1; nor does the Final Official Action attempt to correlate the Watermark to the "first copy control information of a digital format". Accordingly, as can be seen from the above description of the 1st-18th entries of the Table at column 11, the system of MATSUMOTO does not conditionally control reproduction of digital audio data based whether a first copy control information is detected, and using one or the other of the first copy control information or second copy control information, depending on whether the first copy control information is detected. In contrast to MATSUMOTO, e.g., claim 1 of the present invention recites "when said first copy control detector detects the first copy control information, the reproduction of the digital audio data is controlled based on the first copy control information, and when said first copy control

detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information.

The outstanding Final Official Action additionally cites the final two entries of the Table at column 11 as disclosing or suggesting the above-noted features of claim 1. In particular, the Table at column 11 discloses that a CCI is “absent” for the final two entries. However, the final two entries are directed to accommodating the “conventionally existing analog signals” (see column 15, line 42), and not a “digital contents unit” as is recited in pending claim 1. In this regard, Appellant respectfully asserts that the accommodation for the “conventionally existing analog signals”; as shown by the final two entries of the Table at column 11, is unrelated, by definition, and thus cannot provide any teachings, regarding controlling the reproduction of a “digital contents unit” or a “digital data recording medium”.

Additionally, Appellant respectfully submits that, even if the Analog Input of the Table were taken as disclosing the feature recited in claim 1 of “when said first copy control detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information”, none of the entries in the Table at column 11 (including the Analog Input entries) would correspond to the feature recited in claim 1 of “when said first copy control detector detects the first copy control information, the reproduction of the digital audio data is controlled based on the first copy control information”. In particular, the first eighteen entries of the Table each have a value for CCI,

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but the value of the CCI does not control the reproduction. Rather, the results of the remaining entries of the Table do not correspond to the invention recited in claim 1, at least because the results vary depending on the values of the combination of the CCI and the Watermark, as well as the presence or absence of the Watermark and the Media Mark.

Accordingly, the “reproduction” of a “digital contents unit” in MATSUMOTO is not controlled in the manner recited in claim 1 of the present application.

In any case, for digital contents data, the reproduction decision in MATSUMOTO is clearly based on the presence, absence and value of each of the Watermark and the CCI; and the presence or absence of a Media Mark. The use of at least 3 criteria, as opposed to the use of 1 criterion, is shown in the Table of column 11 when, for digital contents, one compares the possible outcomes that correspond to any single value for a digital CCI or a Watermark. Accordingly, Table 11 of MATSUMOTO explicitly teaches that “the reproduction of the digital audio data” cannot be controlled based on the detection of the CCI, but based upon a combination. Therefore, MATSUMOTO explicitly uses the combination, including the “media mark”, the “watermark” and the “CCI” in the Table of column 11 to determine whether a source is legal, and whether the reproduction or recording is permitted.

Furthermore, the final entries of the Table at column 11 relate to an “Analog Input”, which is not shown to be related to the “digital contents unit under reproduction”, that is the subject of claim 1. In this regard, column 15, lines 36-48 of MATSUMOTO also relate to

“using conventionally existing analog signals”. Accordingly, the outstanding Final Official Action mistakenly interprets the accommodation for conventional “analog signals” as disclosing that “the reproduction of the digital contents data is controlled based on the second copy control information”, an interpretation which is fundamentally unwarranted by MATSUMOTO. Accordingly, for each and all of the reasons set forth above, Appellant respectfully submits that the above-noted features of claim 1, relating to a system that controls reproduction using either first or second copy control information, are not disclosed or suggested in MATSUMOTO.

Claim 1 also recites, in the claimed combination, an “encryption decoder configured to decrypt reproduction data... a first copy control detector configured to detect the first copy control information from the decrypted reproduction data”. In this regard, the outstanding Final Official Action asserts that the encryption decoder is disclosed by the Decoder 25 in Figure 3 of MATSUMOTO, and that the first copy control detector is disclosed by the CCI Judging Unit 28 in Figure 3 of MATSUMOTO.

Appellant respectfully submits that the above-noted assertions are in error. In this regard, Appellant had previously argued in a Response Under 37 C.F.R. §1.116, that the input to the Decoder 25 has already been subject to CCI and Watermark detection. In the Advisory Action, the Examiner correctly notes that MATSUMOTO discloses, at column 9, lines 11-13, that “[t]hese judgments may be made before or after signal decoding, rather than

during decoding". Accordingly, Appellant will treat this aspect of the rejection as if the Decoder 25 in Figure 3 was provided before the CCI Judging Unit 28, rather than after the Watermark Judging Unit 27.

In this regard, Appellant notes that MATSUMOTO does not disclose that the Decoder 25 decrypts reproduction output data. Nor does MATSUMOTO disclose that the Decoder 25 extracts digital audio data from the decrypted reproduction data. Furthermore, there is no teaching in MATSUMOTO that the CCI Judging Unit 28 would detect CCI information from the decrypted reproduction data. Rather, MATSUMOTO explicitly describes that the "control unit 26 controls the decoder so that main data to be transmitted, which contains the watermark and CCI, is supplied from the decoder 25" based on "the results of judgments made by the watermark judging unit 27 and CCI judging unit 28". However, no description is provided of how the system would operate if the Decoder 25 were provided before the detectors 27, 28.

Additionally, the only decryption disclosed in MATSUMOTO is described at column 7, line 61 to column 8, line 5. However, that encryption/decryption is not described with respect to the Decoder 25; but rather, that encryption/decryption is described as a generic authentication procedure using a public key between a display 2 and a player 1.

In other words, the explicit disclosure of MATSUMOTO does not disclose or suggest that the Decoder 25 decrypts reproduction output data or that such decrypted reproduction

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output data is used to detect first copy control information. Additionally, even if the system in Figure 3 of MATSUMOTO was rearranged so that the Decoder 25 is provided before the CCI Judging Unit 28 and the Watermark Judging Unit 27, there is still no basis for any assertion that the CCI Judging Unit 28 detects CCI data from the decrypted reproduction data.

The above-noted features recited in, e.g., claim 1, provide great benefit to the present invention. As an example, if first copy control information is detected, then the first copy control information can be used to control reproduction. A reason that the first copy control information can be trusted, if detected, to control reproduction, is that the first copy control information has been found to be encrypted, such that the information is provided with a measure of reliability. It is suggested that one of the reasons that MATSUMOTO requires the combination of copy control modes that is disclosed, is because no single copy control mode was found to be trustworthy. According to the present invention, a decrypted digital CCI would be trusted, albeit subject to additional measures as described below with respect to claims 2, 6, 9, 12 and 14. Accordingly, Appellant respectfully submits that MATSUMOTO does not disclose or suggest the above-noted features of the invention recited in claim 1 that relate to encryption and detection of copy control information from decrypted data.

At least the above-noted features of claim 1 have been shown not to be disclosed or

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suggested by MATSUMOTO. Accordingly, Appellant submits that MATSUMOTO does not teach or suggest the present invention recited in claim 1 of the instant application, and that the rejection should be reversed.

Appellant additionally submits that claims 5 and 7 recite features, similar to the above-noted features of claim 1, i.e., of a multimedia copy control method and an optical disk reproduction device, respectively, that are not disclosed or suggested by MATSUMOTO. In this regard, claim 5 recites, *inter alia*,

wherein encryption of the reproduction output data from the recording medium is decrypted and judged for each digital contents unit under reproduction, and when the first copy control information is detected, the reproduction of the digital audio data is controlled based on the first copy control information, and when the first copy control information is not detected, the reproduction of the digital audio data is controlled based on the second copy control information.

Additionally, claim 7 recites, *inter alia*,

wherein encryption of the reproduction output data from the optical disk is decrypted and judged for each digital contents unit under reproduction, and when said first copy control detector detects the first copy control information, the reproduction of the digital audio data is controlled based on the first copy control information, and when said first copy control detector detects no first copy control information, the reproduction of the digital audio data

is controlled based on the second copy control information.

At least the above-noted features of claims 5 and 7 have been shown not to be disclosed or suggested by MATSUMOTO. Accordingly, Appellant submits that MATSUMOTO does not teach or suggest the present invention recited in claims 5 and 7 of the instant application, and that the rejection thereof should be reversed.

Additionally, Appellant respectfully submits that claims 5, 7 and 11 recite features of a multimedia copy control method, an optical disk reproduction device, and a digital data reproducing and recording system, respectively, that each include features similar to claim 1 i.e., of an encryption decoder configured to decrypt reproduction stream data... a first copy control detector configured to detect the first copy control information from the decrypted reproduction stream data. In this regard, claim 5 recites, *inter alia*,

decrypting reproduction output data from the digital data recording medium to judge whether the reproduction output data is encrypted data;

detecting the first copy control information from the decrypted reproduction data.

Additionally, claim 7 recites, *inter alia*,

an encryption decoder configured to decrypt the extracted reproduction stream data to judge whether the reproduction stream data is encrypted data;

a first copy control detector configured to detect the first copy control information from the decrypted reproduction stream data.

Furthermore, claim 11 recites, *inter alia*,

said reproduction device comprising:

an encryption decoder configured to decrypt reproduction stream data output from the recording medium to judge whether the reproduction stream data is encrypted data;

a first copy control detector configured to detect the first copy control information from the decrypted reproduction stream data.

At least the above-noted features of claims 5, 7 and 11 have been shown not to be disclosed or suggested by MATSUMOTO. Accordingly, Appellant submits that MATSUMOTO does not teach or suggest the present invention recited in claims 5, 7 and 11 of the instant application, and that the rejection thereof should be reversed.

(2) Claim 11

Appellant additionally submits that claim 11 recites additional features not disclosed or suggested by MATSUMOTO. In particular, claim 11 recites an “analog output controller configured to generate analog contents data from the extracted digital audio data... and a digital output controller configured to convert the extracted digital audio data to a specified output format data to be generated therefrom... wherein... when said reproduction device and said recording device are analog-c connected via said analog output controller, the analog contents data reproduced from said reproduction device includes only the second copy

control information” (emphasis added).

The outstanding Final Official Action asserts that MATSUMOTO teaches “an analog output controller configured to generate analog contents data from the extracted digital audio data (See col. 5, lines 25-29; Fig. 3, block #26)”. However, col. 5, lines 25-29 discloses that the “digital copy control method... include at least one apparatus that is constructed to be able to output contents of digital data... as an analog signal, without passing through the interfaces”. In other words, MATSUMOTO explicitly discloses that the method of outputting contents as an analog signal, is performed without utilizing the remaining functionality of MATSUMOTO that the Examiner asserts discloses the remaining features recited in claim 11 (i.e., the first copy control detector, the second copy control detector, the contents decoder). Accordingly, it appears that the Examiner has combined isolated teachings of MATSUMOTO in an attempt to reconstruct Appellant's claimed invention in hindsight, using the isolated and unrelated portions of MATSUMOTO applied in the outstanding Final Official Action.

Moreover, with respect to the analog data shown in the Table at column 11, Appellant respectfully asserts that MATSUMOTO clearly discloses, in the final two entries of the Table at column 11, that the input data is “analog input”, and not “digital audio data”. Furthermore, the “output control unit 26” of MATSUMOTO is not disclosed to relate to an “analog output control portion”, let alone an “analog output control portion configured to generate analog

contents data from the extracted digital audio data”, as is recited in claim 11. In other words, Appellant respectfully asserts that the above-noted features of MATSUMOTO do not disclose or suggest any feature of "an analog output controller to generate analog contents data from the extracted digital audio data" as is recited in claim 11, in the claimed combination. Accordingly, at least for each and all of the reasons set forth above, Appellant respectfully submits that MATSUMOTO does not disclose or suggest the invention recited in claim 11.

(3) Claim 13

Appellant further submits that claim 13 recites features not taught or suggested by MATSUMOTO. In this regard, claim 13 recites, *inter alia*, reproduced data is decrypted for use in judging whether the reproduction output data is encrypted data, and “decrypted reproduction data being adapted for use in detecting the first copy control information and extracting the digital contents data therefrom, and the extracted digital contents data being adapted for use in detecting the second copy control information”. In this regard, the outstanding Final Official Action asserts that column 9, lines 7-26 discloses the above-noted feature of claim 13. However, column 9, lines 7-26 explicitly discloses demodulating with an ECC modulator 23 and decoding data after it passes through a CCI judging unit 28 and a Watermark judging unit 27, such that data is sequentially demodulated (23), used to detect first copy control information (28), used to detect second copy control information (27), and

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then decoded (25). Accordingly, even if the DECODER 25 were also used to decrypt reproduced data, which Appellant asserts is not disclosed, there is no disclosure that any (decrypted) output of the DECODER 25 that could be used in the manner that decrypted data is used in the invention recited in claim 13.

Additionally, the outstanding Advisory Action correctly notes that MATSUMOTO also discloses, at column 9, lines 11-12, that "[t]hese judgments may be made before or after signal decoding, rather than during decoding". However, even if the decoding were performed before "these judgments", there is still no teaching of "decrypted reproduction data being adapted for use in detecting the first copy control information" and "extracted digital audio data being adapted for use in detecting the second copy control information", as is recited in claim 13. In this regard, there is no teaching in MATSUMOTO that the decoder 25 performs decryption and extraction. Additionally, even if the DECODER 25 performed the decryption, as appears to be asserted in the outstanding Final Official Action, there is still no indication that the "digital audio data" is then extracted from the "decrypted reproduction data", as would be required if MATSUMOTO disclosed or suggested the features of claim 13.

Accordingly, at least for each and all of the numerous reasons set forth above, Appellant respectfully submits that MATSUMOTO does not disclose or suggest the invention recited in claim 13.

(4) Claims 3-4, 8 and 10

Appellant additionally submits that claims 3-4, 8 and 10 are allowable, at least for the reason that these claims depend from claims 1 and 7, respectively, and because these claims recite additional features that further define the present invention. Appellant further submits that claims 3-4 and 8 and 10 are separately patentable over the prior art, which fails to disclose or render obvious, in the claimed combination, *inter alia*,

(i) wherein said recording medium stores the first and second copy control information being allocated for each digital contents unit (claim 3);

(ii) an analog output controller configured to generate analog data from the extracted digital audio data;

a digital output controller configured to convert the extracted digital audio data to a specified output format data to be generated therefrom;

wherein the digital audio data outputted via said digital output controller includes both the first and second copy information, and the analog contents data outputted via said analog output controller includes only the second copy control information (claim 4).

(iii) wherein when a reproduction permission condition is not met, said system controller controls said analog output controller and said digital output controller to restrict the reproduction based on at least one of the first and second copy control information (claim 8).

(iv) wherein the digital audio data outputted via said digital output controller includes both the first and second copy control information, and the analog contents data outputted via said analog output controller includes only the second copy control information (claim 10).

Accordingly, for all the above reasons, Appellant submits that the rejection of claims 1-2, 5, 7-8, 10, 11 and 13 under 35 U.S.C. §102(e) is inappropriate and unsupported by MATSUMOTO et al. Therefore, Appellant respectfully requests that the decision of the Examiner to finally reject claims 1-2, 5, 7-8, 10, 11 and 13 under 35 U.S.C. §102(e) be reversed, and that the application be returned to the Examiner for withdrawal of the rejection over MATSUMOTO and an early allowance of claims 1-2, 5, 7-8, 10, 11 and 13 on appeal.

(B) The Rejection of claims 2, 6, 9, 12 and 14 Under 35 U.S.C. §103(a) as Unpatentable over MATSUMOTO et al. is Improper, and the Decision to Reject Claims 2, 6, 9, 12 and 14 on this Ground Should be Reversed.

Claim 2 recites "wherein each of the first and second copy control information includes three copy control states of copy free, copy permission with restriction and copy inhibition, and in the case where the copy control state of the first copy control information is the copy free state, the reproduction is controlled to be inhibited, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be permissive, and

in the case where the copy control state of the second copy control information is the copy free state, the reproduction is controlled to be permissive, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be inhibited". Additionally, each of claims 6, 9, 12 and 14 recite features similar to the above-noted features of claim 2, though each of claims 6, 9, 12 and 14 depends from a different independent claim (i.e., claims 5, 7, 11 and 13, respectively). The outstanding Final Official Action generally asserts that MATSUMOTO discloses the features of the above-noted claims at "col. 4, lines 7-12; col. 10, lines 37-42; Table on col. 11". Appellants respectfully submit that the outstanding Final Official Action is in error.

In this regard, according to the present invention, each of the first and second CCI includes three copy control states of copy free, copy permission with restriction, and copy inhibition (see. Figure 13). In contrast to the invention recited in claims 2, 6, 9, 12 and 14, when the CCI copy control state is "copy free", i.e., "00" in MATSUMOTO, the reproduction is not controlled to be inhibited; rather, the 6th and 15th entries correspond to a "copy free" state. Additionally, when the CCI copy control state is "copy permission with restriction", i.e., "10" in MATSUMOTO, or when the CCI copy control state is "copy inhibition", i.e., "11" in MATSUMOTO, the reproduction is not "permissive" in the 4th, 5th, 7th, 8th, 11th, 13th, or 14th entries in the table. Similarly, when the Watermark CCI copy control state is "copy free", i.e., "00" in MATSUMOTO, the reproduction is not controlled to be permissive in,

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e.g., the 4th, 5th, 13th and 14th entries.

As a particular example of the benefits of the claimed invention, Appellant submits that if the CCI in MATSUMOTO is altered intentionally into a copy free state, the reproduction is possible and therefore there arises a problem that unauthorized copying may be possible. For example, in the 18th entry of the Table in column 11 in MATSUMOTO, when no media mark is present and no watermark is present, reproduction is permitted when the CCI is copy free, i.e., "00". In contrast, according to the present invention claimed in claims 2, 6, 9, 12 and 14, if the first CCI of the encrypted contents is copy free, reproduction of the data is prohibited and copying is thereby prevented. Thus, the reproduction and copying of a disc having a CCI illegally altered can be prevented in the present invention, whereas MATSUMOTO is susceptible to unauthorized copying in such a case.

Accordingly, for all the above reasons, Appellant respectfully submits that the rejection of claims 2, 6, 9, 12 and 14 under 35 U.S.C. §103(a) over MATSUMOTO is inappropriate. Therefore, Appellant respectfully requests that the decision of the Examiner to finally reject claims 2, 6, 9, 12 and 14 under 35 U.S.C. §103(a) be reversed, and that the application be returned to the Examiner for withdrawal of the rejection over MATSUMOTO and an early allowance of claims 2, 5, 9, 12 and 14 on appeal.

Accordingly, Appellant submits that the rejection of claims 1, 3-5, 7-8, 10-11 and 13 under 35 U.S.C. §102(e) is inappropriate and unsupported by the teachings of

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MATSUMOTO. Appellant further submits that the rejection of claims 2, 6, 9, 12 and 14 under 35 U.S.C. §103(a) is inappropriate and unsupported by the teachings of MATSUMOTO. Therefore Appellant respectfully requests that the decision of the Examiner to finally reject claims 1-14 under 35 U.S.C. §102(e) and/or 35 U.S.C. §103(a) be reversed, and that the application be returned to the Examiner for withdrawal of the rejections over MATSUMOTO and an early allowance of claims 1-14 on appeal.

(9) **CONCLUSION**

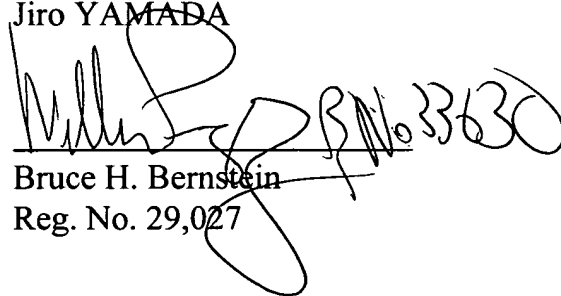
Claims 1, 3-5, 7-8, 10-11 and 13 are patentable under 35 U.S.C. §102(e) over MATSUMOTO; and claims 2, 6, 9, 12 and 14 are patentable under 35 U.S.C. §103(a) over MATSUMOTO. Specifically, the applied art of record fails to disclose, suggest or render obvious the unique combination of features recited in Appellant's claims 1-14. Accordingly, Appellant respectfully requests that the Board reverse the decision of the Examiner to finally reject claims 1-14 under 35 U.S.C. §102(e) or 35 U.S.C. §103(a) and return the application to the Examiner for withdrawal of the rejections.

Thus, Appellant respectfully submits that each and every pending claim of the present application meets the requirements for patentability under 35 U.S.C. §102 and 35 U.S.C. §103, and that the present application and each pending claim are allowable over the prior art of record.

Should there be any questions, any representative of the U.S. Patent and Trademark Office is invited to contact the undersigned at the below-listed telephone number.

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APPENDIX

1. (Previously Presented) A multimedia copy control system for controlling a copy of a digital data recording medium in which digital audio data is stored and from which the digital audio - data is reproduced and recorded to another recording medium for copying, wherein the digital audio data stored in the digital data recording medium includes a first copy control information of a digital format and a second copy control information of an analog embedded format, said system comprising:

an encryption decoder configured to decrypt reproduction output data from the digital data recording medium to judge whether the reproduction output data is encrypted data;

a first copy control detector configured to detect the first copy control information from the decrypted reproduction data;

a contents data decoder configured to extract the digital audio data from the decrypted reproduction data; and

a second copy control detector configured to detect the second copy control information from the extracted digital audio data,

wherein encryption of the reproduction output data from the recording medium is decrypted and judged for each digital contents unit under reproduction, and when said first copy control detector detects the first copy control information, the reproduction of the digital

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audio data is controlled based on the first copy control information, and when said first copy control detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information.

2. (Original) The multimedia copy control system as claimed in claim 1, wherein each of the first and second copy control information includes three copy control states of copy free, copy permission with restriction and copy inhibition, and in the case where the copy control state of the first copy control information is the copy free state, the reproduction is controlled to be inhibited, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be permissive, and

in the case where the copy control state of the second copy control information is the copy free state, the reproduction is controlled to be permissive, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be inhibited.

3. (Original) The multimedia copy control system as claimed in claim 1, wherein said recording medium stores the first and second copy control information being allocated for each digital contents unit.

4. (Previously Presented) The multimedia copy control system as claimed in claim 1 further comprising:

an analog output controller configured to generate analog data from the extracted

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digital audio data;

a digital output controller configured to convert the extracted digital audio data to a specified output format data to be generated therefrom;

wherein the digital audio data outputted via said digital output controller includes both the first and second copy information, and the analog contents data outputted via said analog output controller includes only the second copy control information.

5. (Previously Presented) A multimedia copy control method for controlling a copy of a digital data recording medium in which digital audio data is stored and from which the digital audio data is reproduced and recorded to another recording medium for copying, wherein the digital audio data stored in the digital data recording medium includes a first copy control information of a digital format and a second copy control information of an analog embedded format, said method comprising:

decrypting reproduction output data from the digital data recording medium to judge whether the reproduction output data is encrypted data;

detecting the first copy control information from the decrypted reproduction data;

extracting the digital audio data from the decrypted reproduction data; and

detecting the second copy control information from the extracted digital audio data,

wherein encryption of the reproduction output data from the recording medium is decrypted and judged for each digital contents unit under reproduction, and when the first

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copy control information is detected, the reproduction of the digital audio data is controlled based on the first copy control information, and when the first copy control information is not detected, the reproduction of the digital audio data is controlled based on the second copy control information.

6. (Original) The multimedia copy control method as claimed in claim 5, wherein each of the first and second copy control information includes three copy control states of copy free, copy permission with restriction and copy inhibition, and in the case where the copy control state of the first copy control information is the copy free state, the reproduction is controlled to be inhibited, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be permissive, and

in the case where the copy control state of the second copy control information is the copy free state, the reproduction is controlled to be permissive, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be inhibited.

7. (Previously Presented) An optical disk reproduction device for reproducing an optical disk in which digital audio data is stored and from which the digital audio data is reproduced for copying, wherein the digital audio data stored in the optical disk includes a first copy control information of a digital format and a second copy control information of

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an analog embedded format, said reproduction device comprising:

a stream data extractor configured to extract stream data from the reproduction output data of the optical disk;

an encryption decoder configured to decrypt the extracted reproduction stream data to judge whether the reproduction stream data is encrypted data;

a first copy control detector configured to detect the first copy control information from the decrypted reproduction stream data;

a contents decoder configured to extract and decode the digital audio data from the decrypted reproduction stream data;

a second copy control detector configured to detect the second copy control information from the extracted digital audio data;

an analog output controller configured to output analog contents data from the extracted digital audio data;

a digital output controller configured to convert the extracted digital audio data to a specified output format data to be generated therefrom; and

a system controller configured to receive the first and second copy control information and controls said analog output controller and said digital output controller,

wherein encryption of the reproduction output data from the optical disk is decrypted and judged for each digital contents unit under reproduction, and when said first copy control

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detector detects the first copy control information, the reproduction of the digital audio data is controlled based on the first copy control information, and when said first copy control detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information.

8. (Original) The optical disk reproduction device as claimed in claim 7, wherein when a reproduction permission condition is not met, said system controller controls said analog output controller and said digital output controller to restrict the reproduction based on at least one of the first and second copy control information.

9. (Original) The optical disk reproduction device as claimed in claim 7, wherein each of the first and second copy control information includes three copy control states of copy free, copy permission with restriction and copy inhibition, and in the case where the copy control state of the first copy control information is the copy free state, the reproduction is controlled to be inhibited, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be permissive, and

in the case where the copy control state of the second copy control information is the copy free state, the reproduction is controlled to be permissive, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be inhibited.

10. (Previously Presented) The optical disk reproduction device as claimed in claim

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7, wherein the digital audio data outputted via said digital output controller includes both the first and second copy control information, and the analog contents data outputted via said analog output controller includes only the second copy control information.

11. (Previously Presented) A digital data reproducing and recording system comprising a connected combination of a recording medium reproduction device for reproducing digital data of a recording medium and a recording medium recording device for recording the reproduced digital data to another recording medium, adapted to control a multimedia copy of the recording medium,

wherein the digital audio data stored in the recording medium includes a first copy control information of a digital format and a second copy control information of an analog embedded format,

said reproduction device comprising:

an encryption decoder configured to decrypt reproduction stream data output from the recording medium to judge whether the reproduction stream data is encrypted data;

a first copy control detector configured to detect the first copy control information from the decrypted reproduction stream data;

a contents decoder configured to extract the digital audio data from the decrypted reproduction stream data;

a second copy control detector configured to detect the second copy control

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information from the extracted digital audio data;

an analog output controller configured to generate analog contents data from the extracted digital audio data; and

a digital output controller configured to convert the extracted digital audio data to a specified output format data to be generated therefrom,

wherein, when said reproduction device and said recording device are digital-connected via said digital output controller, the digital audio data reproduced from said reproduction device includes both the first and second copy control information, and when said reproduction device and said recording device are analog-connected via said analog output controller, the analog contents data reproduced from said reproduction device includes only the second copy control information.

12. (Original) The digital data reproducing and recording system as claimed in claim 11, wherein each of the first and second copy control information includes three copy control states of copy free, copy permission with restriction and copy inhibition, and in the case where the copy control state of the first copy control information is the copy free state, the reproduction is controlled to be inhibited, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be permissive, and

in the case where the copy control state of the second copy control information is the copy free state, the reproduction is controlled to be permissive, and in the case of the copy

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permission with restriction and copy inhibition states, the reproduction is controlled to be inhibited.

13. (Previously Presented) A digital data recording medium adapted for multimedia copy control, said recording medium comprising:

at least one data storage region storing digital audio data which includes first copy control information of a digital format and second copy control information of an analog embedded format,

said at least one data storage region storing said first and second copy control information allocated in pairs for each digital contents unit,

wherein the digital audio data stored in the recording medium is adapted to be reproduced from the digital data recording medium so that the reproduced data is decrypted for use in judging whether the reproduction output data is encrypted data,

the decrypted reproduction data being adapted for use in detecting the first copy control information and extracting the digital audio data therefrom, and

the extracted digital audio data being adapted for use in detecting the second copy control information.

14. (Original) The digital data recording medium as claimed in claim 13, wherein each of the first and second copy control information includes three copy control states of copy free, copy permission with restriction and copy inhibition, and in the case where the

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copy control state of the first copy control information is the copy free state, the reproduction is controlled to be inhibited, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be permissive, and

in the case where the copy control state of the second copy control information is the copy free state, the reproduction is controlled to be permissive, and in the case of the copy permission with restriction and copy inhibition states, the reproduction is controlled to be inhibited.